

In re Patent Application of  
BERTRAND ET AL.  
Serial No. 10/813,564  
Filed: MARCH 30, 2004

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SEP 21 2006

REMARKS

Applicants thank the Examiner for the careful and thorough examination of the present application. Dependent Claim 19 has been amended to correct an informality unrelated to patentability. The specification has also been amended to correct a typographical error.

On September 21, 2006, the Examiner conducted a telephonic interview with the Agent for the Applicants. The Examiner is thanked for extending all courtesies during the interview. During the interview, the Examiner helpfully suggested clarifying the upper threshold recitation in the claims to further define the present invention over the cited prior art. Per the Examiner's suggestion, independent Claims 12, 23, and 33 have been amended to clarify the upper threshold recitation. Based on the arguments and amendments below, all claims are believed to be patentable.

I. The Claimed Invention

Amended independent Claim 12 is directed to a comparator with two thresholds comprising a two-threshold latch including an input and an output respectively forming an input and an output of the comparator, and including a first node between a first power supply terminal and the output of the comparator. The comparator further includes a first negative feedback loop acting on the first node for setting a first threshold of the comparator as a function of a first power supply potential applied to the first power supply terminal, and as a function of a first reference potential.

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The first threshold is an upper trigger threshold, and the first reference potential is less than or equal to the first power supply potential, which is positive. The difference between the first power supply potential and the first reference potential is positive and increases as a function of the first power supply potential to limit an increase in the first threshold when the first power supply potential increases.

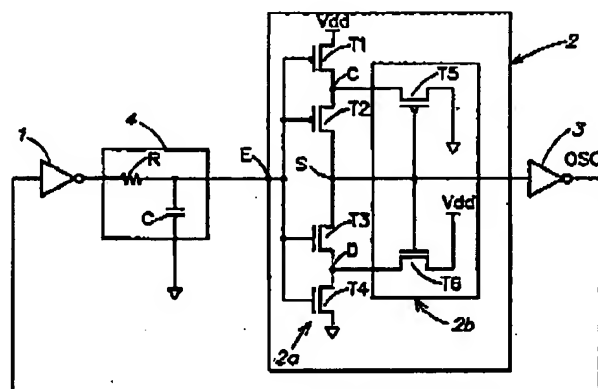
Amended independent Claim 23 is directed to a comparator similar to independent Claim 12 and further recites a latch connected between first and second power supply terminals and having an upper trigger threshold and a lower trigger threshold, a second node between the second power supply terminal and the output of the comparator, and a second negative feedback loop for setting a second threshold of the comparator as a function of a second power supply potential applied to the second power supply terminal, and as a function of a second reference potential applied to said second negative feedback loop. Independent Claim 33 is directed to a method counterpart of independent Claim 23.

## II. Claims 12-13, 16-23, 26-33 And 36-42 Are Patentable

Independent Claims 12, 23, and 33 were rejected by the Examiner over U.S. Patent No. 6,127,898 to Naura. In the Office Action, the Examiner cited the Vref1 potential of the Naura patent as teaching the first reference potential (VREF1) potential of the present application. (Col. 5, lines 34-36). The Naura patent discloses a threshold amplifier where the

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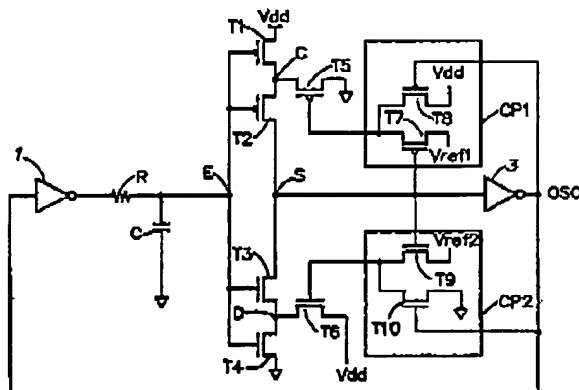
transistors that set voltage rise threshold and voltage drop threshold in the amplifier are controlled by a bias control circuit. (Abstract). Figure 1 of the Naura patent is reproduced below.



**Figure 1 of the Naura patent**

Figure 1 of the Naura patent discloses threshold amplifier 2 with inverter stage 2a and a stage 2b for setting the voltage rise threshold and the voltage drop threshold. (Col. 3, lines 15-17). Further, the Naura patent further discloses that the transistors T6 and T5 set the voltage rise threshold and voltage drop threshold, respectively. (Col.3, lines 39-42 and 55-57). The Naura patent incorporates the characteristics of Figure 1 into Figure 3. (Col. 4, lines 1-4). Figure 3 of the Naura patent is reproduced below.

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**Figure 3 of the Naura Patent**

The Naura patent discloses that the first bias control circuit CP1 and the second bias control circuit CP2 are associated with transistors T5 and T6, respectively. (Col. 4, lines 22-27). In Figure 3 of the Naura patent, the voltage potential Vref2 is introduced into second bias control circuit CP2; the same circuit that is associated with transistor T6, which modifies the voltage rise threshold. Further, the Naura patent discloses that Vref2, the voltage that modifies the voltage rise threshold, is equal to Vdd minus a constant. (Col. 5, lines 38-42).

Independent Claims 12, 23, and 33 recite a first threshold of the comparator as a function of a first power supply potential (VDD) applied to the first power supply terminal and as a function of a first reference potential (VREF1), wherein the first threshold is an upper triggering threshold.

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Figure 3, reproduced above, and paragraphs 32-34 of the specification of the present application provide the support for the contention that VREF1 controls transistor T22 and the modification of the upper trigger threshold (VH). Therefore, the first reference potential (VREF1) correlates with Vref2 of the Naura patent.

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(Col. 5, lines 39-40). The Naura patent further discloses that the difference between the upper and lower thresholds diminishes when Vdd diminishes. (Col. 4, 21-22). The Naura patent simply does not teach the above highlighted recitation of the independent claims. In stark contrast, the stated goal of the Naura patent is to change upper and lower threshold values as Vdd decreases. (Col. 2, lines 18-23). Therefore, the Vref2 of the Naura patent does not disclose the claimed characteristics of VREF1 in the present application.

Accordingly, independent Claims 12, 23, and 33 are patentable over the Naura patent for its above highlighted deficiencies. Their respective dependent claims, which recite yet further distinguishing features, are also patentable, and require no further discussion herein.

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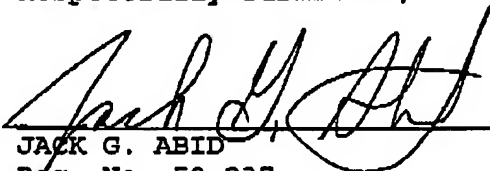
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III. Conclusion

In view of the arguments and amendments presented above, it is submitted that all of the claims are patentable. Accordingly, a Notice of Allowance is respectfully requested in due course. Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned at the telephone number listed below.

Respectfully submitted,

  
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CERTIFICATE OF FACSIMILE TRANSMISSION

I HEREBY CERTIFY that the foregoing correspondence has been forwarded via facsimile number 571-273-8300 to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 this 21<sup>st</sup> day of September, 2006.

  
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